

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 400 723 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
02.03.2005 Bulletin 2005/09

(51) Int Cl.7: **F16G 13/07**

(43) Date of publication A2:
24.03.2004 Bulletin 2004/13

(21) Application number: **03077958.1**

(22) Date of filing: **18.09.2003**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**
Designated Extension States:
AL LT LV MK

(72) Inventors:
• **Schumacher, Jeffrey A.**
Port Washington, WI 53074 (US)
• **Hansen, Kevin S.**
Grafton, WI 53024 (US)

(30) Priority: **20.09.2002 US 412593 P**

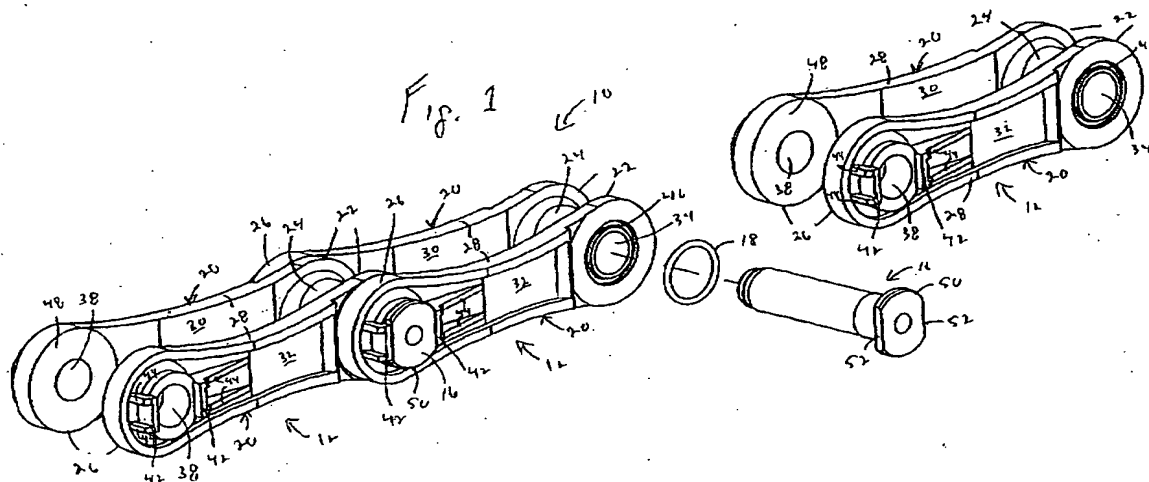
(74) Representative:
Prins, Adrianus Willem, Mr. Ir. et al
Vereenigde,
Nieuwe Parklaan 97
2587 BN Den Haag (NL)

(71) Applicant: **Rexnord Industries, Inc.**
Milwaukee, WI 53214 (US)

(54) Sealed chain link assembly

(57) A chain link assembly including a first link (12) pivotally joined to a second link (12) by a pin. The first link (12) has a pair of first sidebars (20) joined by a first barrel (24). Each first sidebar (20) includes first (22) and second (26) ends joined by an inner surface and an outer surface. The first ends (22) of each sidebar define coaxial first apertures (34) coaxial with the first barrel (24), and the second ends (26) define coaxial second apertures (38). A second link has a pair of second sidebars joined by a second barrel. Each second sidebar includes first and second ends joined by an inner sur-

face and an outer surface. The second sidebar first ends define coaxial first apertures coaxial with the second barrel and the second apertures of the first link, and the second ends of the second sidebars define coaxial second apertures. A pin (16) extends through the first apertures (34) and first barrel (24) of the second link and the second apertures (38) of the first link to pivotally join the first link to the second link. In one embodiment, at least one of the links is formed from a single piece. In another embodiment, the pin (16) is rotationally fixed relative to one of the links.

**EP 1 400 723 A3**

THIS PAGE BLANK (USPTO)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 07 7958

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	DE 140 173 C (HOLMES) 9 April 1903 (1903-04-09) * page 1, line 58 - line 63; figures 1,3 *	1,2	F16G13/07 F16G13/07
Y	US 4 150 856 A (HAKKENBERG PETER ET AL) 24 April 1979 (1979-04-24) * column 2, line 39 - line 49; figure 1 *	1,2	
A		9,10,15,16	
A	US 4 265 084 A (LIVESAY RICHARD E) 5 May 1981 (1981-05-05) * column 4, line 18 - line 22; figures 1,4 *	1,2,7,9-11,15-17	
X	US 4 271 663 A (TEMPLIN HARRY W ET AL) 9 June 1981 (1981-06-09) * column 3, line 36 - line 66 * * column 4, line 34 - line 39; figures 1,2 *	8,12,13	
A		1,3-5,15,18,19	TECHNICAL FIELDS SEARCHED (Int.Cl.7) F16G B65G B01D B62D
X	US 5 165 522 A (UTTKE RUSSELL H C ET AL) 24 November 1992 (1992-11-24) * column 4, line 49 - line 54 * * column 6, line 59 - line 63; figures 2-10 *	8,12-14	
A		1,3-6,15,18-20	
A,D	US 2 389 874 A (AMOS SEARLES ET AL) 27 November 1945 (1945-11-27)		
A,D	US 5 269 729 A (MILLER ROBERT M ET AL) 14 December 1993 (1993-12-14) ----- -/--		
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 11 January 2005	Examiner Baron, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

BEST AVAILABLE COPY



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 07 7958

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (InI.CI.7)
A,D	US 3 206 258 A (HEINRICH BURTON O) 14 September 1965 (1965-09-14) -----		
			TECHNICAL FIELDS SEARCHED (InI.CI.7)
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 11 January 2005	Examiner Baron, C
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

1

EPO FORM 1503 03.92 (P04C01)

BEST AVAILABLE COPY

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 07 7958

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-01-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 140173	C		NONE	
US 4150856	A	24-04-1979	CA 1085898 A1	16-09-1980
			FR 2409904 A1	22-06-1979
			GB 2008507 A ,B	06-06-1979
			IT 1100150 B	28-09-1985
			JP 54083142 U	13-06-1979
			JP 59023657 Y2	13-07-1984
US 4265084	A	05-05-1981	NONE	
US 4271663	A	09-06-1981	AU 5937080 A	08-01-1981
			BR 8003855 A	13-01-1981
			CA 1125546 A1	15-06-1982
			JP 57205436 U	27-12-1982
			JP 61012440 Y2	18-04-1986
			JP 56006940 A	24-01-1981
			MX 151296 A	07-11-1984
US 5165522	A	24-11-1992	NONE	
US 2389874	A	27-11-1945	NONE	
US 5269729	A	14-12-1993	DE 69307439 D1	27-02-1997
			DE 69307439 T2	10-07-1997
			EP 0587299 A1	16-03-1994
			ES 2096212 T3	01-03-1997
			JP 7091501 A	04-04-1995
US 3206258	A	14-09-1965	NONE	

BEST AVAILABLE COPY

THIS PAGE BLANK (USPTO)